

# Audio Research LP1

The record revival continues apace, and for those who can't spend film star money on a phono stage, Audio Research has a more affordable product to vitalise your vinyl...

Review: **Nick Tate** Lab: **Paul Miller**

Scroll back to 2003, and ask yourself how you'd see hi-fi developing in the coming decade? Back then, the audio industry was predicting a brave new world of digital, where multichannel finally came into its own thanks to the (then) new DVD-Audio and Super Audio Compact Disc formats. Funny then that, in the past ten years, two headline trends in hi-fi have turned out to be – ermm – valves and vinyl.

Few foresaw the proud return of the analogue LP, which was beyond the wildest dreams of even the most militant of *vinylistas*. Its comeback has been so successful that the number of new turntables being launched now seems to be in inverse proportion to that of CD players, which is declining by the month. And tube amplifiers are also undergoing a renaissance the like of which Take That would envy, with long-term users of serious solid-state amplification forsaking it for a walk on the wild side with thermionic valves. In the words of Thunderclap Newman, there's something in the air...

So what could be more timely than Audio Research's new LP1 phono stage – which ticks both 'vinyl' and 'valve' boxes, in one neat package?

Despite being designed for a music disc now 65 years old and using a tube that has been around since Methuselah was in short trousers, there's nothing old hat about this Audio Research. Like all the company's phono stages, it's a hybrid designed to mix the low noise of solid-state with the musicality that comes from glowing bottles. JFETs were chosen for their combination of low noise and excellent sonic performance, the company says. They do the heavy lifting, providing a decent (claimed) 47dB of gain, which is enough for all MM and some higher output MC phono cartridges – and then comes the 6H30

**RIGHT:** The FET input, RIAA and tube output stages are all to the right of the parallel tracks leading to the RCA phonos. ARC's custom transformer and multiple stages of PSU regulation accounts for the bulk of the contents

tube buffer. Audio Research fits the popular Sovtek version, said to give an operating life of some 4000 hours.

## WHAT'S IN THE BOX?

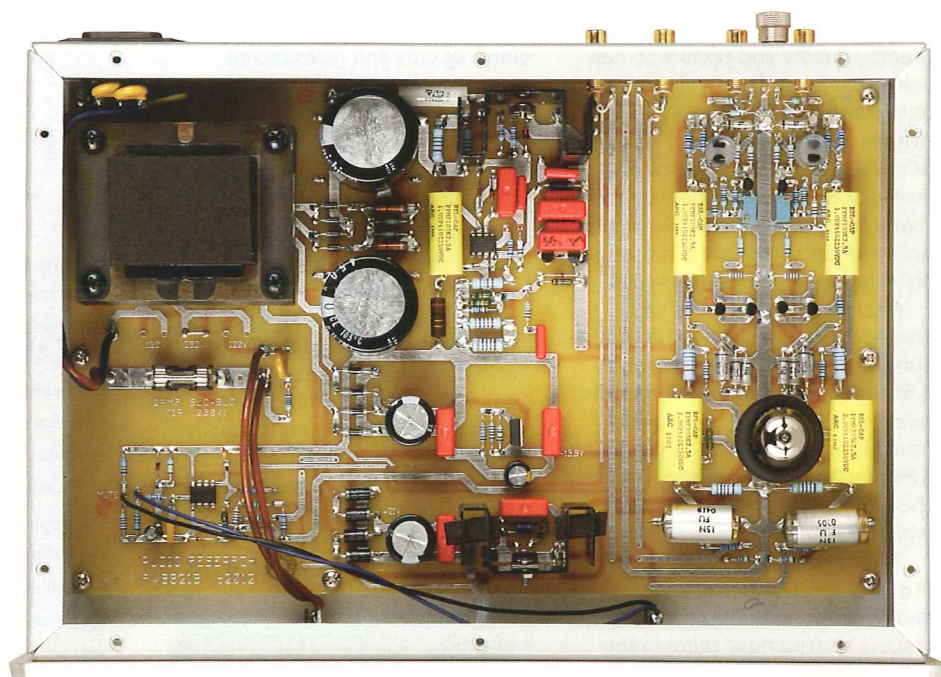
It is perfectly possible to make phono preamps which are very small indeed, as the QED Discsaver shows us – chuck a chip into a plastic box, give it some volts and you're off. But as you'd expect considering its price, the LP1 is an altogether more lavish design. Despite being largish for a phono stage, its box is not full of air. Inside you'll see one large custom printed circuit board, which is populated by well spaced-out components, and the power supply section (complete with US-made frame transformer with multiple stages of regulation) occupying most of it.

The four JFETs, along with supporting componentry sit to the right, behind the tube buffer. Overall component quality is high – those large Nichicon smoothing capacitors for example, show that Audio Research hasn't been buying its bits downmarket. The design itself uses no

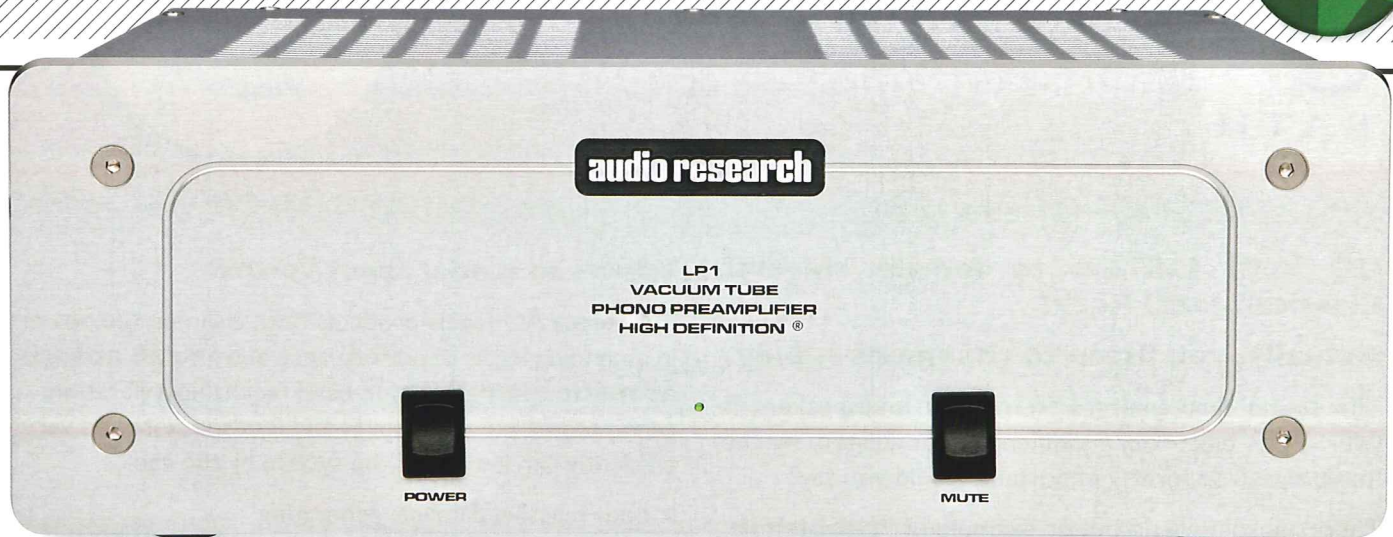
overall feedback, and is non-inverting, with single-ended inputs and outputs. No balanced connections are offered: Audio Research says, 'if the LP1 was a true balanced design instead of being single-ended then its price would have been significantly higher'.

The outside of the unit feels classy, as you'd expect from this marque. I really like the inset brand logo and accompanying engraved line, which confers a sense that this product has been around since the golden age of wireless. It certainly doesn't look or feel fashionable, offering a sort of timeless, functional appeal. As for its build, if the North Koreans pressed the button then suffice to say it would be around to keep the cockroaches company.

For a product like this, the front mounted power and mute switches are all that's needed, and only serve to emphasise its no-nonsense feel. Operationally, you need to leave 45 seconds for it to come out of sleep mode, as there's a 'soft start' built-in to prolong tube life. Sonically it's at its best when it has been on for well over







an hour but perhaps you should consider switching it on in the mornings and off at night if only to conserve the tube life.

### NEEDLE TALK

The manufacturer says any pick-up with an output voltage of between 0.7mV and 7mV will work. I tried a range, running everything from an Ortofon 2M Red (with an output of 5.5mV) to Lyra's lowish 0.6mV output Delos MC [*HFN* May '13]. With the latter, the amp volume needed to go up a little bit more than ideal, but the LP1 still worked convincingly with it, and I was struck by just how quiet and hum-free it was. Indeed, I have tried few better in this respect

– certainly no all-tube phono stage could come close. So despite being nominally configured to work with MMs and high output MCs, it seems to offer a touch more operational flexibility.

Given that this was designed by the same team that penned the esteemed and expensive Reference Phono 2 SE [see boxout], I wasn't going to be shocked to the soles of my shoes if the LP1 proved a competent performer – and so it did. It's

'Lead electric guitar sounded as rich and raw as an antique violin'

a mark of a good design team to get a distinctive house sound, and this phono stage is immediately identifiable as an Audio Research product. Essentially, it's rhythmically fast paced, dynamically punchy and never backward in coming forward – yet it doesn't sound harsh even on pretty forward programme material...

For example, cue up some classic '70s rock in the shape of America's 'Ventura Highway' [Warner K46180] and the

LP1 goes straight to the heart of the performance, serving up a big, expansive, stadium sort of sound. You really get the melodic importance of the opening acoustic guitar motifs, and

how they develop and push the song along – the strummed acoustic guitars are beautifully carried: fast without showing any undue edge. Over this, the vocals hang ethereally, marking out one of the key traits of this phono stage: its excellent image projection and depth perspective.

Tonally, it's a neutral affair, which is to say nowhere near as warm and 'valvey' as Icon Audio's (really rather good, but slightly cheaper) all-tube PS3. Whereas the

**ABOVE:** The LP1 looks like a large ARC phono stage that's shrunk in the wash, and lost its rack handles. It's pleasingly minimalist, with just power and mute switches to play with

latter basks your music in warm, soothing autumn sunlight, the Audio Research is far crisper and brighter, shining a searching white beam on the recording, yet without blinding you. There was none of the nice, romantic euphony of the PS3 with the powerful old-school reggae strains of 'Jackpot' from Congo Ashanti's eponymous album. Instead, the LP1 delivered a wide-open and clear window on the recording; it was both pleasingly spacious and confident in the way it located elements of the mix in space, and also nicely tight and rhythmic. I loved the way this phono stage tied everything together in such an effortless and carefree way, letting the music flow just like it should.

### HOT STUFF

Its first-rate rhythmic ability really began to cement itself in my affections when I moved to some '80s rock, courtesy of The Cult. 'She Sells Sanctuary' from *Love* [Beggars' Banquet A85] never fails to set the pulse racing through serious vinyl replay gear, and the LP1 really let rip.

The song is characterised by its pounding, relentless bass guitar, over which some heavy pounding of hi-hats and snares goes on. And over this, Ian Astbury's plaintive multitracked vocals soar chaotically. All of this was laid out before me in sharp relief, the Audio Research singly failing to hide the fact that it was 'having fun'.

It managed to do the analytical thing that some phono stages do so well – throwing vast tracts of fine detail out at the listener, all beautifully syncopated with the rhythm section. Yet it never got bogged down with telling me just how tightly strung the snare drum was, ☞

### IT'S IN THE GENES

The LP1 is the company's entry-level phono stage, without the flexibility or gain of Audio Research's other offerings such as the mighty £11,450 Reference Phono 2 SE. The LP1 is crafted just like all the company's other products, from the ground up in its Minnesota facility, but has a 'smaller and more modest chassis'. Both phono stages share the same design team too, but there the similarities end. The 2 SE is big, heavy, and sports a large vacuum-fluorescent display and full remote control. Two separate sets of inputs each have selectable gain and seven loading options, including a 'Custom' factory-set mode. And as well as standard RIAA phono equalisation, there are early stereo Columbia and Decca equalisation curves. Unlike the LP1 it is of course a fully balanced design, the moving coil section using low-noise FETs rather than a transformer. In all, ARC's REF Phono 2 SE is an extremely sophisticated, state-of-the-art design.



## PHONO STAGE



**ABOVE:** Rear panels do not come much simpler – just one pair of RCA phonos for input and another for line-level connection to a separate amp/preamp. There are no user-adjustable gain or loading options available here

preferring instead to immerse one in the emotion of the event. The result was a captivating rendition of a thumping rock standard that can all too often sound dirge-like.

Brilliant as The Cult's early '80s epic is, you'd never call *Love* a warm and inviting place to be – it sounds hard and barren even through the most mellifluous playback equipment. So to get the gauge of the LP1's tonal accuracy I spun up one of the slickest and most sumptuous late 1970s soul albums around, Randy Crawford's *Secret Combination* [Warners K56904].

It was never going to be easy to capture one of the best voices ever committed to vinyl, but producer Tommy LiPuma did an amazing job and 'You Might Need Somebody' is all the proof you need. This phono stage showed its mettle by giving a wonderfully clean and open rendering of the recorded acoustic and everything within. It centred the lead vocal with great assurance, and hung the keyboards behind beautifully. I was immediately drawn to both the purity of vocal timbre and deftness of her phrasing, which worked as much on a rhythmic level as it did on a melodic one.

This song just kept surprising via the Audio Research – even the opening 16 bars were a veritable treasure-trove of detail which made me ever more beguiled by the LP1. The saxophones dripped with harmonics, as did the lead electric guitar which sounded as rich and raw as an antique violin.

Bass guitar was strong and tuneful, with a great sense of purposefulness that comes from dynamic punch allied to great timing. Even the backing keyboards had a beautiful shimmering quality to them, one which was exquisitely carried by this superb phono stage.

Overall, it accurately captured the song's sense of quiet desperation, hidden behind what is superficially quite an upbeat rock-infused groove.

### CLASSICAL TOO

This 'see-through' midband, allied to punchy bass and spacious, sparkling treble sets the Audio Research up to sing with pretty much any kind of music you care to throw at it. Unlike some other price rivals, which seem to thrive on certain types of music or recordings yet fall over their feet with others, the LP1 relished everything I loaded onto the platter. Tchaikovsky's *1812 Overture* [DG 139029] revealed the Berlin Philharmonic in all its fiery majesty, the violins racing along with breathtaking speed, the brass crunching through in front of bowed cellos lending a menacing growl to the recorded acoustic.

This new LF1 phono stage's combination of speed and accuracy, allied to its naturally musical nature, made for an enthralling listen, and gave the lie to any assertion that vinyl is not a superlative carrier of classical music. ☺

### HI-FI NEWS VERDICT

Not all hybrid designs are successful, yet the ARC LP1 is a model of happily married life. This affordable phono preamplifier renders music in a highly believable, natural way – being strong enough to impart the raw power of whatever music it plays, yet just smooth enough to gently round off a recording's worst excesses. A fine product which won't cause analogue addicts to go digital any time soon!

Sound Quality: 82%



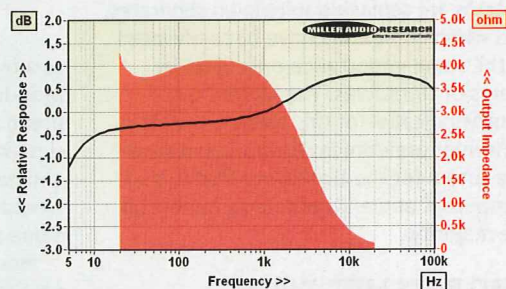
## LAB REPORT

### AUDIO RESEARCH LP1

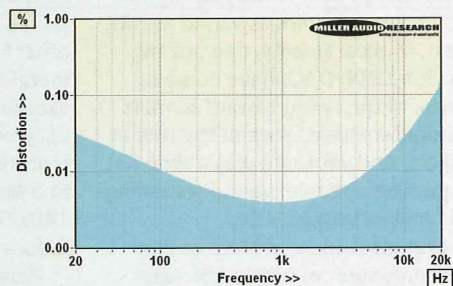
With its FET input and single 6H30 double-triode, the LP1 is a relatively simple but very elegant design. The +46.7dB gain (x216) is ideally suited for MM pick-ups in the 1-7mV output range, with 4.7mV required for 1V output from the LP1. There's enough headroom to accommodate a full 15.9V output from the LP1. This represents 74mV generated by the cartridge (+23dB above 5mV at 1kHz/5cm/sec and beyond the tracking ability of most pick-ups). The 47kohm input loading is perfectly standard but the LP1's tube-driven output impedance is rather too high at ~4kohm below 1kHz, falling to a preferred 115ohm at 20kHz [see red infill, Graph 1 below]. High (>47kohm) impedance line inputs will suit the LP1 or >100kohm tube amps rather better still. Neither is the RIAA response ruler-flat. ARC specifies ±0.3dB from 20Hz-20kHz but our sample demonstrated a shelf down to -0.35dB from 20Hz-1kHz with a boost of up to +0.8dB through the presence band, treble and ultrasonic [see Graph 1]. This might bring a more 'vivid' sound to LPs, depending on the balance of the MM pick-up.

Distortion increases gently with increasing input and output level at 1kHz from 0.004% (1mV input) to 0.008% (10mV) and 0.08% (50mV) while increasing slightly more at low bass frequencies (0.03% at 20Hz) and to a greater degree through the high treble at 0.16%/20kHz [see Graph 2]. Nevertheless, no MM pick-up will match this! Finally, and crucially, the LP1's noise performance is rather better than ARC's specification, yielding an A-wtd S/N ratio of 85dB (re. 5mV). Again, this is better than the range achieved by most MM/vinyl groove combinations.

Readers are invited to view a comprehensive QC Suite test report for ARC's LP1 phono preamplifier by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Extended frequency response (5Hz-100kHz, black) versus output impedance (20Hz-100kHz, red)



**ABOVE:** Distortion vs. (equalised) frequency from 20Hz-20kHz at 0dBV out. Low midrange distortion

### HI-FI NEWS SPECIFICATIONS

Input loading	47kohm
Input sensitivity (re. 0dBV)	4.63mV
Input overload (re. 1% THD @ 1kHz)	75mV
Maximum output/Impedance (re. 1% THD)	15.9V / 115-4.3kohm
A-wtd S/N ratio (re. 0dBV)	85.0dB
Frequency response (20Hz-20kHz)	-0.35dB to +0.80dB
Distortion (20Hz-20kHz, re. 0dBV)	0.0039-0.16%
Power consumption	22W
Dimensions (WHD)	330x114x218mm